

S/149/62/000/006/007/008
A006/A101

AUTHORS: Kolesnikova, L. S., Adler, Yu. P., Turkovskaya, A. V.

TITLE: Comparing the sensitivity to intercrystalline corrosion of zinc-aluminum alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 6, 1962, 132 - 135

TEXT: Corrosion tests by the American ASTM method were made with zinc alloys with copper ЦАММг-4-1-0.05 (TsAMg-4-1-0.05) and without copper ЦАМг-4-0.05 (TsAMg-4-0.05) manufactured on "ЦО" (TsO) grade zinc base, of 99.96% purity. For comparison, the mechanical properties of the alloys prior to corrosion were determined by tensile tests of pressure-cast specimens, for 240, 271 and 516 hours. To determine a sensitivity criterion of intercrystalline corrosion, the results obtained were mathematically processed and the correlation of parameters δ_g , δ , and $\frac{\Delta}{1}$ was investigated. For the TsAMg-4-0.05 alloy the possibility was established of using δ_g as the sole criterion of intercrystalline corrosion. The data obtained from experimental results proved to be insufficient

Card 1/2

Comparing the sensitivity to...

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to establish an analogous criterion for alloy TsAMg-4-1-0.05. Research in this direction is to be continued. It was observed that the scattering of results was considerably greater for specimens tested during 271 hours. This leads to the assumption that the addition of copper yields less stable results. At extended duration of the tests the correlation coefficients δ_8 and $\frac{\Delta 1}{1}$, δ and $\frac{\Delta 1}{1}$ changed their signs, and their values decreased. This is understood as a result of the outer process of phase stabilization. There is 1 table.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys) Kafedra korrozii i zashchity metallov (Department of Corrosion and Metal Protection); Oiredmet.

SUBMITTED: May 18, 1962

Card 2/2

SE UY-YU; TURKOVSKAYA, A.V.

Corrosion of copper-nickel alloys in sea water. Izv. vys. uchet.
zav.; tsvet. met. 4 no.4:145-148 '61. (MIRA 14:8)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra
korrozii i elektrokhemii.

(Copper-nickel alloys--Corrosion)

TURKOVSKAYA, A.V.; SE UY-YU

Corrosion of copper-nickel alloys in hydrochloric acid solutions.
Izv. vys. ucheb. zav.; tsvet. met. 4 no.5:174-178 '61. (MIRA 14:10)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra korrozii
i elektrokhimii.

(Copper-nickel alloys—Corrosion)

(Hydrochloric acid)

S/149/61/000/005/006/008
A006/A101

AUTHORS: Turkovskaya, A. V., Hsieh Wui-yu

TITLE: Corrosion of copper-nickel alloys in hydrochloric acid solutions

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no.5, 1961, 174-178

TEXT: The authors studied the corrosion and electrochemical behavior of Cu-Ni alloys in 1; 4.5 and 8% hydrochloric acid at 20, 60 and 80°C. in closed glass containers with reverse coolers. Experiments at 60 and 80°C were made in a glycerin filled thermostat. The dependence of the corrosion rate on the duration of the test, nickel content, temperature and acid concentration was investigated. A sharp increase in the corrosion resistance of the investigated alloys was observed at 20 - 25% Ni content. The appearance of a chemical stability limit is caused by the formation of phase films on the alloy surfaces, which possess protective properties. Cu-Ni alloys containing over 25% Ni can be employed in diluted hydrochloric acid solutions, at temperatures below 60°C.

Card 1/2

Corrosion of copper-nickel alloys ...

S/149/61/000/005/006/008
A006/A101

There are 5 figures and 5 Soviet-bloc references.

ASSOCIATIONS: Krasnoyarskiy institut tsvetnykh metallov (Krasnoyarsk Institute
of Nonferrous Metals); Kafedra korrozii i elektrokhimii
(Department of Corrosion and Electrochemistry)

SUBMITTED: January 23, 1961

Card 2/2

81546
SOV/137-59-5-11504

5.1140 (B)

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 289
(USSR)

AUTHORS: Turkovskaya, A.V., Persiantseva, V.P.

TITLE: The Effect of Some Factors on the Atmospheric Corrosion Rate
of Magnesium and Its Alloy 21

PERIODICAL: Sb. nauchn. tr. Nauchno-tekhn. o-vo tsvetn. metallurgii, Mosk.
in-t tsvetn. met. i zolota, 1958, Nr 29, pp 172 - 178

ABSTRACT: The authors investigated the effect of relative humidity, SO_2 , CO_2 , $SO_2 + CO_2$ and carbon dust on atmospheric corrosion of Mg, passivated Mg, its alloy (with 6.5% Al, 0.3% Mn, 1% Zn) and passivated alloy. Corrosion was determined by the gravimetric method and by changes in the appearance of specimens with a 45-power magnification. It was established that for the given alloy the critical humidity was at 90 - 95% of the relative

Card 1/2

81546

SOV/137-59-5-11504

The Effect of Some Factors on the Atmospheric Corrosion Rate of Magnesium and Its Alloy

humidity. The corrosion rate of Mg and Mg alloy increases if the atmosphere contains SO_2 , CO_2 and their mixtures. Carbon dust raises the corrosion rate in an atmosphere containing SO_2 and does not affect the corrosion rate in an atmosphere containing CO_2 . ✓

V.P.

Card 2/2

69716

SOV/81-59-9-31685

5.1140(B)
18.8300

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 9, p 308 (USSR)

AUTHORS: Turkovskaya, A.V., Persiantseva, V.P.

TITLE: The Effect of Some Factors on the Rate of Atmospheric Corrosion of Magnesium and Its Alloys 18

PERIODICAL: Sb. nauchn. tr. Nauchno-tekhn. o-vo tsvetn. metallurgii, Mosk. in-t tsvetn. met. i zolota, 1958, Nr 29, pp 172 - 178

ABSTRACT: The author studied the effect of moisture, CO_2 , SO_2 and the presence of solid dust particles on the rate of atmospheric corrosion (RAC) of Mg and the Mg-alloy of the composition (in %): Al 6.5, Mn 0.3, Zn 1, which has been passivated in an acidic bichromatic bath containing NH_4Cl . The study has shown that RAC of these materials increases sharply at an increase in the relative humidity to 90 - 95%. An intensification of RAC of Mg was noted in an atmosphere polluted by CO_2 and SO_2 , in which case the joint presence of both gases leads to higher corrosion losses than in an atmosphere containing these gases separately. Particles of coal dust promote the corrosion in SO_2 and almost do not affect the corrosion rate in an atmosphere polluted by CO_2 . A. Shatalov ✓

Card 1/1

1. TURKOVSKAYA, A. V.

18(0); 25(1)

PHASE I BOOK EXPLOITATION SOV/3076

Bakhvalov, Grigoriy Tikhonovich, and Anna Vasil'yevna Turkovskaya

Korroziya i zashchita metallov (Corrosion and Protection of Metals)
2d ed., rev. and enl. Moscow, Metallurgizdat, 1959. 310 p.
Errata slip inserted. 11,200 copies printed.

Reviewers: P.I. Terokhov, Candidate of Technical Sciences; I.Ya. Klinov, Doctor of Technical Sciences, Professor; and Ye.M. Zaretskiy, Docent; Ed.: A.N. Chernov; Ed. of Publishing House: O.M. Kamayeva; Tech. Ed.: Ye.B. Vaynshteyn.

PURPOSE: This textbook is intended for students of schools of higher technical education who are not specializing in the study of the corrosion and protection of metals. It may also be useful to technical personnel.

COVERAGE: The book deals with processes of metal corrosion in different media and methods of protecting metals from corrosion. The results of scientific research and industrial developments

Card 1/8

Corrosion and Protection (Cont.)

SOV/3076

In the field of anticorrosion protection are discussed. The automation of electroplating processes and other processes of decorative and protective treatment is described. Illustrative drawings and diagrams are presented. No personalities are mentioned. There are 61 references, all Soviet.

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AVAILABLE: Library of Congress

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VK/jb
2-15-60

TURKOV, N.Y.

AKIMOVA, K.I.; BAZHENOV, M.F.; BAKHVALOV, G.T.; BEZKLUBENKO, N.P.; BERMAN, S.I.;
BOGDANOV, Ye.S.; BODYAKO, M.N.; BOYKO, B.B.; VINOGRADOV, S.V.;
GAGEN-TORN, K.V.; GLEK, T.P.; GOREV, K.V.; GRADUSOV, P.I.; GUSHCHINA, T.N.;
YEMEL'YANOV, A.K.; YESIKOV, M.P.; ZDZIARSKIY, A.V.; ZAKHAROV, M.V.;
ZAKHAROVA, M.I.; KARGHEVSKIY, V.A.; KOMAROV, A.M.; KORZHENKO, O.T.;
LAYHER, V.I.; MAL'TSEV, M.V.; MILLER, L.Ye.; MILOVANOV, A.I.;
MIRONOV, S.S.; NIKONOROVA, N.A.; OL'KHOV, N.P.; OSIPOVA, T.V.;
OSOKIN, N.Ye.; PERLIN, I.L.; PLAKSIN, I.N.; PROKOF'YEV, A.D.;
RUMYANTSEV, M.V.; SEVERDENKO, V.P.; SEREDIN, P.I.; SMIRYAGIN, A.P.;
SPASSKIY, A.G.; TITOV, P.S.; TURKOVSKAYA, A.V.; SHAKHNAZAROV, A.K.;
SHPICHINETSKIY, Ye.S.; YURKSHTOVICH, N.A.; YUSHKOV, A.V.;
YANUSHEVICH, L.V.

Sergei Ivanovich Gubkin. TSvet.met. 28 no.6:60-61 N-D '55. (MIRA 10:11)
(Gubkin, Sergei Ivanovich, 1898-1955)

BAKHVALOV, G. T., and A. V. TURKOVSKA/A.

Rukovodstvo k laboratornym rabotam po korrozii i gal'vanostegii.
Moskva, Gos. nauch. - tekhn. izd-vo lit-ry po chernoi i tsvetnoi
metallurgii, 1952. 239 p. , talbes, diagrs.

Bibliography: p. 225.

Title tr.: Guide to laboratory works on corrosion and galvanostegy.

TA 462. B 3

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955.

Турковская, Д.В.
NESSONOVA, G.D.; TURKOVSKAYA, D.V.; MOSOLOVA, E.D.

Determining the silicon content of textile materials. Tekst. prom.
18 no.1:55 Ja '58. (MIRA 11:2)

(Textile chemistry)

11/12/57 / KVA, D. V.
NESSONOVA, G.D.; TURKOVSKAYA, D.V.

Methods for quantitative determination of the chloride-ion. Zav.
lab.23 no.2:159-161 '57. (MIRA 10:3)

1. Moskovskiy tekstil'nyy institut.
(Chlorides—Analysis) (Titration)

NESSONOVA, G.D.; TURKOVSKAYA, D.V.

Gravity method of determining silicon in textile materials.
Izv. vys. ucheb. zav.; tekhn. tekst. prom. no.5:109-113 '58.
(MIRA 11:12)

1. Moskovskiy tekstil'nyy institut.
(Textile fabrics--Testing)
(Chemistry, Analytical--Quantitative)
(Silicon)

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TOP SECRET

APPROVED FOR RELEASE: 03/14/2001

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LESSONOVA, G.D.; TURKOVSKAYA, D.V.

Iodometric determination of oxidizing agents. Zav.lab.21 no.11:
1302-1304 '55. (MIRA 9:2)

1.Moskovskiy tekstil'nyy institut.
(Oxidizing agents) (Iodometry)

TURKOVSKAYA, S. M.

~~TURKEVAKAYA, S. M.~~

"Effect of Chronic Illness on the Physical Development of
School Children"

Report presented at the Natl. Conf. on School Hygiene, Warsaw,
25-26 Apr 60

1. 2645-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) IJP(c) GG/BB
 ACCESSION NR: AP5025743 UR/0286/65/000/018/0091/0092
 681.142-523.8

AUTHOR: Vedeshnikov, V. A.; Volkov, A. F.; Zenkin, V. D.; Trapeznikov, V. A.;
 Turkovskaya, T. A.

TITLE: A digital computer with programmed circuit control. Class 42, No. 174844

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 91-92

TOPIC TAGS: digital computer, automatic computer programming, self adaptive control

ABSTRACT: This Author Certificate introduces a digital computer with programmed circuit monitoring. The unit contains a control counter, instruction memory, instruction readout amplifier, instruction register, operation decoder, central control unit, control pulse amplifiers, arithmetic unit, working storage, and an input output device. The installation is designed for automatically and accurately finding elements that fail. The computer contains a microoperation zone decoder and a pilot signal shaper which are connected together and to the readout amplifiers for the instruction memory. The outputs from the pilot signal shaper are connected to the central control unit, the local control unit, and the control signal amplifier

Card 1/3

L 2645-66

ACCESSION NR: AP5025743

unit. The computer also contains a microcontrol unit which is connected to the central control unit and to the control signal amplifiers, and a device for recording the point of failure, which is connected to the instruction memory readout amplifiers. A modification of this computer is designed for transition from macrooperation to microoperation conditions to improve the resolution of diagnostic tests. The microcontrol unit in this computer contains the first gate for interpretation of operating conditions. The inputs to this gate are connected respectively to the unit for sampling commands from the instruction memory and to the flip-flop for storage of operating conditions. The output from this flip-flop is connected to a delay circuit through gates which are connected to the outputs from the microoperation zone decoders which correspond to microoperations for setting the flip-flops of the computer. The delay circuit is connected through a gating assembly to the outputs from the control signal amplifiers. The output from the delay circuit is connected to the input of the instruction sampler. The second gate for interpretation of operating instructions is connected to the input of the delay circuit. The inputs to this gate are connected respectively to the instruction sampler and to the inverse output from the flip-flop for storage of operating conditions through the gate for transition from macrocontrol to microcontrol conditions. The output from the delay circuit is connected in parallel with the output from the first gate for

Card 2/3.

L 2645-66

ACCESSION NR: AP5025743

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interpretation of operating conditions. In a second modification of this computer, the number of points which can be monitored is increased by using an input register in the microoperation zone decoder. This register is connected to the decoder, and the outputs from the decoder are connected to the control points. In a third modification of this computer, indication of a point of failure is simplified by using an input register in the failure indicator with binary-digital code for the number of the non-operative element. This register is connected to decimal indicators through a decoder which converts the register code into decimal positional notation. A fourth modification of this computer is designed for automatically and accurately locating points of failure. The pilot signal shaper in this computer contains gates with inputs connected respectively to the microoperation zone decoder and to the readout amplifiers for the instruction memory. The outputs from these gates are connected to the elements to be monitored. [14]

ASSOCIATION: Institut avtomatiki i telemekhaniki (Institute of Automation and Telemechanics)

SUBMITTED: 27Jun64

ENCL: 00

SUB CODE: DP

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4104

Card 3/3

EP

KOTOV, I.F., elektromekhanik po remontu stutnykh vypryamiteley;
TURKOVSKIY, I.A., elektromonter

Improvement of a mercury rectifier firing system. Elek. i topl.
tiaga 7 no.6:16-17 Je '63. (MIRA 16:9)

1. Irkutskiy uchastok energosnabzheniya.
(Electric railroads--Substations) (Mercury-arc rectifiers)

KOTKOV, M.; TURKOVSKIY, V.

State Bank tasks in the control of expenditures from wage
funds. Den. i kred. 17 no.3:34-41 Mr '59. (MIRA 12:4)
(Wages) (Banks and banking)

TURKOVSKIY, V.

TURKOVSKIY, V.

Methods for analyzing reasons for overdrawing wage funds in
industry. Den.1 kred.15 no.11:38-49 N '57. (MIRA 10:12)
(Wages) (Banks and banking)

ARASLANOV, K., ekonomist; TURKOVSKIY, V.; KHARITONOV, I.

We are discussing the problems of control over wage fund
disbursement. Den.1 kred. 21 no.2:34-50 F '63. (MIRA 16:2)

1. Kirovskaya kontora Gosbanka (for Araslanov). 2. Starshiy
kreditnyy inspektor Poltavskoy kontory Gosbanka (for Kharitonov).
(Banks and banking) (Wages)

YEVSEYEV, P.; TURKOVSKIY, V.

Increase the efficiency of control. Den. i kred. 20 no.8:64-69
Ag '62. (MIRA 15:9)
(Wages) (Banks and banking)

TURKOVSKIY, V.A.

Theorem of the theory of univalent functions. Izv.vys.ucheb.
zav.; mat. no.6:189-191 '59. (MIRA 13:3)

1. Kiyevskiy politekhnicheskii institut.
(Functions of complex variables)

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CIA-RDP86-00513R001757530007-6"

TURKOVSKIY, V.A., dots., otv. za vypusk; BAZILYANSKAYA, I.L., red.;
KOVALEVA, Z.G., red.; TROFIMENKO, A.S., tekhn. red.

[Higher mathematics] Vysshaya matematika. Khar'kov, Izd-vo Khar'kovskogo univ. No.2. [Methodological instructions and tasks withing the course] Metodicheskie ukazaniia i zadaniia po kursu; dlia studentov obshchetekhnicheskikh fakul'tetov vysshikh uchebnykh zavedenii. Izd.2., perer. (MIRA 17:2)
1963. 146 p.

1. Ukraine. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya. Upravleniye vysshikh uchebnykh zavedeniy.

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CIA-RDP86-00513R001757530007-6"

~~TURKOVSKY, V.A.~~

Brachystochrone in a field on constant force. Ukr. mat. zhur.
10 no.3:336-339 '58. (MIRA 11:11)
(Calculus of variations)

DZIUNIKOWSKI, Bodhan; FLORKOWSKI, Tadeusz; JURKIEWICZ, Leopold; TURKOWA,
Boguslawa

Determination of lead content in ore samples by means of the
method of absorption of γ or X rays. Nukleonika 7 no.9:561-572 '62.

1. Academy of Mining and Metallurgy, Institute of Nuclear
Techniques, Krakow, and Academy of Mining and Metallurgy, Department
of Physics II, Krakow.

PYTLOWA, Irena; TURKOWA, Henryk

Value of Waldman's cup test of capillary resistance tests in skin diseases. Przegl. dermat. 48 no.8/10:451-458 '61.

1. Z Kliniki Dermatologicznej P.A.M. w Szczecinie Kierownik: Prof.
H. Prochacki. (DERMATOLOGY) (CAPILLARIES physiol)

TURKOWSKA, D.

"Gabriel Rzaczynski and his description of Poland's mineral resources." p. 112
(WIADOMOSCI MUZEUM ZIEMI, Vol. 6, no. 1, 1952, Warszawa, Poland.)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress.
August, 1953, Uncl.

TURNKOWSKI, J.

Majewska, D. Research on climate after thermostatic treatment. *Prace Inst. Spozyczy, Warszawa*, Vol. 1, no. 1, Jan. 1955.

SO: Monthly List of East European Accessions, (MEMO), 10, Vol. 4, no. 10, Oct. 1955,
Uncl.

TURKOVSKIY, V. A.

TURKOVSKIY, V. A. — "Certain Extreme Problems in the Geometry of Plane Curves." Min Higher Education USSR. Kiev Order of Lenin Polytechnic inst. Kiev, 1956
(Dissertation for the Degree of Doctor in Physicomathematical Sciences).

SO: Knizhnaya Letonis', No 9, 1956

TURKOVSKIY, V. A.

"On the Theory of Equilibrium of a Ponderable Flexible Filament,"
Izv. Kievsk, politekhn, in-ta, Vol 12, 1953, pp 96-110

The author discusses equilibrium of tensile and nontensile flexible filaments in a gravitational field for the case of symmetry with respect to the vertical. He considers the case of a force directed along the filament, as well as the inverse problem. In the case of the nontensile filament, the equation of the evolute and an expression for the curvature are derived.

RZhMekh, No 2, 1954

ELZBIETA, T.

"Classification and Selection of Bacon", p. 3, (1955),
Vol. 7, No. 1, Jan. 1955, Warszawa, Poland)

30: Monthly List of East European Accessions, (EMAL), LC, Vol. 4,
No. 5, May 1955, Uncl.

TURKOWSKI, I

3852

604.933.5 : 614.31 : 643.83

AG

Majewska D., Turkowski T. Examination of Tinned Hams after a Thermostat Test.

„Badanie szynek w puszkach pozostałych po próbie termostatowej”.
Przemysł Spożywczy. No. 1, 1955, pp. 17—19, 3 tabs.

The fact is already established that sterilised preserves are not adversely affected by a thermostat test. In order to determine whether the same is true also of tinned ham, investigations were conducted in the Central Standardisation Inspectorate Laboratory. It was established that bacteriological examinations reveal no marked differences as between samples of tinned ham which have been thermostatised and those not thermostatised. In only three instances was a greater over-all number of bacteria revealed in thermostatised preserves. In the remaining (33) samples of thermostatised and non-thermostatised preserves the number of bacteria was 100 — 200 per 1 g.

①

TURKOWSKI, TADEUSZ

Poland/Chemical Technology. Chemical Products and Their Application -- Food
industry, I-28

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 6711

Author: Turkowski, Tadeusz

Institution: None

Title: Classification and Sorting of Bacon

Original

Publication: Gospod. miesna, 1955, 7, No 1, 3-6

Abstract: The principal systems of bacon classification -- three Danish, Dutch,
Canadian and British, are considered, and it is pointed out that they
are most complex and contradictory, which renders difficult the
grading of bacon.

Card 1/1

POL.

822.323.08

3084

Turkowski Z. High-Speed Rotary Drilling Method in the Polish Petro-
leum Industry.

"Szybkoobrotowa metoda wiercenia obrotowego w polskim przemysle
naftowym", Przegląd Techniczny, No. 3, 1954, pp. 100-101.

Description of experiments carried out with a view to standardizing
rotary drilling methods. The best results were obtained by adopting the
method called forced drilling. It was found possible by this method to
obtain a threefold increase in mechanical progress with a simultaneous
threefold decrease in the wear of boring tools. All fears of breakdown
hitherto entertained as regards forced drilling have proved to be un-
founded. Conditions essential for forced drilling operations have been
determined experimentally and put into practice in a number of wells.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530007-6

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530007-6"

TURKOWSKI, Z.

Research on: the system of rotary drilling in the petroleum industry in
Poland. P. 177
NAFTA. (Instytut Naftowy) Krakow.
Vol. 10 no. 8, Aug. 1954

SOURCE: EEAL LC Vol. 5, no. 7, July 1956

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530007-6

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001757530007-6"

TURKOWSKI, Z

✓ 1268. First results of application of the correct rotary drilling regime. Z. Turkowski, *Bull. Polish Inst. Petrol.*, 1955, 5, 1-2 (suppl. to *Nafta (Krakow)*, 1955, 11).—The author supervised and directed operations in 2 exploratory drillings between June and Dec 1953. Higher progress speeds are recorded with less wear on the bit. 5 bits gave 1650 m drilling without failures. Compared with generally encountered drilling, progress was more than doubled.

M. S. ✓

TURKOWSKI, Z

2

3414 037.243.5.002.4
Turkowski Z. Survey of Rotary Drilling Routine in the Polish Petro-
leum Industry.

„Badania reżimu wiercenia obrotowego w polskim przemyśle nafto-
wym. Nafta. No. 8, 1954, pp. 177—182, 10 figs., 1 tab.

POL . 3

Routine experiments were carried out including investigation of the
influence of curtailment of individual drilling conditions upon drilling
progress. Investigations applied to the pressure exerted, in strata of
varying hardness, upon the drilling bit, as well as to the ratio of the
number of revolutions to pressure, and the drilling technique adopted
for strata of varying hardness and drillability. The results of these
experiments are expressed in graphic form, and an accompanying table
contains recommendations as to drilling conditions when using milling
type boring bits of various gauges and for various geological strata.

LCW

REPORT, 2.

"First Results of the Application of the Soviet Satellite 'Cleaning Drillings',
Biuletyn, p. 1, (WPT, Vol. 11, No. 2, Feb. 1955, Krakow, Poland)

NO: Monthly List of East European Accessions, (WPT), 19, Vol. 1, No. 5,
May 1955, Incl.

TURKOWSKI, Z.

"Problem of the progress of well boring according to present research of the Petroleum Institute." Eiuletyn. p. 7. (NAFTA, Vol. 9, no. 7/8, Jul/Aug 53, Krakow)

SO: Monthly List of East European Accessions, Vol 3 No 6 Library of Congress Jun 54 Uncl

mining

P. i. A.

465
Turkowiński Z. Dynamics in Band-Wheel Pumping Power Systems.
Zagadnienie dynamiki układu kieratowego. Nafta No 8, 1950.

BP 225. 229.1 fig. 8 tabs
Analysis of the work of band- wheel pumping power units and, in particular, of the distribution of forces in the individual elements. Theoretical consideration of calculations, with simple formulae for computation of the forces occurring, and practical consideration of measurements, recommendations are made as to the method of measuring forces occurring in the system. The control of the system consists in comparison of the values obtained with those calculated, together with analysis of the operation of the complete unit, irregularities in the system and correct solutions. In view of the fact that the technical hypotheses and computations agree with the data obtained in the measuring process, the theoretical computations can be used as the basis for designing band-wheel pumping equipment, whereas the operation of existing systems may be checked by means of dynamometric measurement.

24

66322

SOV/140-59-6-23/29

On a Theorem of the Theory of Schlicht Functions

The present paper is in direct connection with the author's
[Ref 1] publication on functions being schlicht with a
schlicht derivative.
There are 4 Soviet references.

ASSOCIATION: Kiyevskiy politekhnicheskii institut (Kiyev Polytechnical
Institute)

SUBMITTED: June 24, 1958

Card 2/2

AUTHOR: Turkovskiy, V.A. SOV/41-10-3-11/14

TITLE: ~~On the Brachystochrone~~ in the Field of a Constant Force
(O brakhistokhrone v pole postoyannoy sily)

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1958, Vol 10, Nr 3,
pp 336 - 339 (USSR)

ABSTRACT: The author explicitly solves the following problems: A heavy material point moves in the vertical plane along a curve from the point A to the point B. The friction on the curve is proportional to the normal pressure and the resistance of the medium is a given function of the velocity. The initial velocity in A is given. That curve is to be determined on which the point comes from A to B in the shortest time under the given assumptions.
There are 1 figure and 6 references, 4 of which are Soviet, 1 is French, and 1 Swiss.

SUBMITTED: October 25, 1957 (Kiyev)

Card 1/1

USSR/Cultivated Plants - Commercial. Oil-Bearing. Sugar-Bearing. M-5

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29892

Author : Minko, D., Kanash, M., Turks, L.

Inst : -

Title : Ways of Improving the Quality of the Fiber of Soviet
Cotton Varieties.

Orig Pub : Khlopkovodstvo, 1957, No 10, 33-37.

Abstract : No abstract.

Card 1/1

- 15 -

TURKS, V.A., inzh. (Tashkent)

Damming the Amu Darya channel at the head of the Tashsaka Canal.
Gidr. 1 mel. 16 no.6:58-60 Je '64. (MIFA 17:9)

TURKS, V.A., inzh.

Mechanized cleaning of the head section of irrigation canals. Gidr.
1 vol. 10 no.2:44-49 # '58. (MIRA 11:3)
(Irrigation canals and flumes)

Turks, V. A.

99-58-2-6/9

AUTHOR: Turks, V.A., Engineer

TITLE: A Method of Mechanized Dredging the Head Section of Irrigation Canal (Sposob mekhanizirovannoy ochistki golovnogo uchastka orositel'nogo kanala). From the Experimental Work on the Tashsakinets Canal in South Khorezm (Iz opyta raboty na Tashsakinskom kanale v Yuzhnom Khorezme)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1958, # 2, pp 44-49 (USSR)

ABSTRACT: Mechanized dredging of irrigation canals is an ever increasing task. More than 5 million cu.m of silt were taken yearly from the main canals of South Khorezm which are fed from the Amu-Darya river - and this represents but 1/3 of the total sediments. Though many types of dredges are being constructed - the author is of the opinion that dredging methods must be modified. He describes his proposed method in this article.

There are 2 tables and 1 figure.

AVAILABLE: Library of Congress

Card 1/1

TURKS, V.A.

Hydraulics

Graphic-analytic method of calculating the regulating action of a water reservoir.
Gidr. i. mel., no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, MARCH 1952 ~~1953~~ Uncl.

TURKS, V.A., inzhener.

Results of the use of current-regulating systems on the Amu Darya River.
Gidr.1 mel. 5 no.4: 68-73 Ap '53.

(MLRA 6:5)

(Amu Dar'ya)

191T69

TURKS, V. A.

Oct 51

USSR/Hydrology - River

"Increasing the Head Water Intake by Conducting Regulating Operations in River Beds," Kh. Sh. Shapiro, Cand Tech Sci, V. A. Turks, Engr

"Gidrotekh i Meliorat" Vol III, No 10, pp 47-53

Describes expts in river regulation, by proper directing of streams, for the purpose of increasing water intake in the Tash-Sakinskiy canal to secure irrigation during periods of drought.

191T69

USSR/Engineering - Hydraulics

Jan 52

"Graphoanalytical Method for Calculating the Regulation Effect of a Reservoir," V. A. Turks, Engr

"Gidrotekh i Melio" No 1, pp 77-79

Suggests method for soln of basic eq of flow continuity by estimation. Precision of soln depends only on hydrological and topographical data. Procedure for plotting combined graph of 2 relationships in rectangular system of coordinates is less complicated than ordinary

202164

USSR/Engineering - Hydraulics
(Contd)

Jan 52

methods. Gives table of estimated values for individual case as illustrating example.

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TURKS, V. A.

TURKULETS, H. I.

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| 9(1) | 151 |
| <p> FIGURE 1 BOOK EXPLANATION NOV/1977 Poluprovodnikovye termoprikladnyye; termistorskiy (Thermistors); Collection of Articles) Moscow, Gostekhnizdat, 1979. 229 p. 13,000 copies printed. (Title page): B. S. Sorokov, Doctor of Technical Sciences, Professor; B. S. Sorokov, Doctor of Technical Sciences, Professor; B. S. Sorokov, Doctor of Technical Sciences, Professor (Chief Ed.); B. P. Shogov, Engineer, and V. I. Terentev, Engineer. PERSONAL: This collection of articles is intended for engineering and technical personnel of plants, OKB, NII and also instructors and students of vuzs. CONTENTS: The book contains articles dealing with problems of manufacture of thermistors and determining thermistor parameters and characteristics. The authors also discuss problems of industrial application of thermistors, the control elements. The book is an effort of cooperation by scientists of a number of vuzs, members of NII and engineers of one of the plants (name is not given) of Moscow. No personalities are mentioned. References appear at the end of some articles. </p> | 155 |
| <p> TERENTEV, V. I. Calculation of Parameters of Measuring Bridge Circuits With Thermistors The author discusses a method of calculating bridge circuits with thermistors used in temperature measuring devices. There are no references. </p> | 162 |
| <p> MECHAYEV, G. I. Some Advantages of Thermistor Heat Detector Cells in Circuits for Measuring Temperature The author discusses the advantages of thermistor heat detector cells over view resistance thermometers in devices for measuring temperature. He also describes a method of calculating parameters of a high-sensitivity measuring bridge. There are 6 references, all Soviet. </p> | 168 |
| <p> TERENTEV, V. I. Determination of a Coefficient of Thermal Inertia for Thermistors and Air Flow Rate Meter The author discusses a method of determining the coefficient of thermal inertia for TSh-1 and T-8 types of thermistors under the condition of motion of the media. She also describes an air flow rate meter operating at various temperatures and densities. There are no references. </p> | 173 |
| <p> MECHAYEV, G. I., V. I. Terentev and M. A. Balashov. Low-Inertia Thermistor Heat Detector The authors discuss an experimental device for controlling and measuring the level of liquids and loose substances. There are no references. </p> | 182 |
| <p> ABRAHAMOV, M. I. Thermistors for Superhigh Frequencies The author discusses thermistors used in the detector heads for measuring superhigh-frequency power and describes methods of eliminating the error of measurement, of decreasing the influence of higher harmonics and calibration errors, as well as methods of increasing electrical stability and the coefficient of heat transfer. There are 6 references, all Soviet. </p> | 194 |
| <p> TERENTEV, V. I. Thermoregulator Using TShM Type Thermistors The author discusses circuits of automatic temperature regulators used in bread-baking industry and presents recommendations for regulator manufacture. There are no references. </p> | 198 |
| <p> LEGUNOV, M. A. Use of Thermistors for Compensating Thermocouple Error The author discusses a method of compensating the error of thermocouple measurement due to temperature difference of thermocouple alloys. He also explains a method of calculating parameters of compensating circuits containing thermistors. There are 5 references, all Soviet. </p> | |

TURKULETS, Vladimir Illarionovich; UDALOV, Nikolay Petrovich;
TISHCHENKO, N.M., red.; FRIDKIN, L.M., tekhn. red.

[Photodiodes and phototriodes] Fotodiody i fototriody. Moskva, Gosenergoizdat, 1962. 62 p. (Biblioteka po avtomatike, no.64) (MIRA 16:1)
(Photoelectric cells) (Electron tubes)

85376

9.4300 (3203, 1043, 1143)

S/081/60/000/017/012/016
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 17, p. 350, # 70277

AUTHORS: Turkulets, V.I., Shleptsova, Z.V.

TITLE: On the Effect of Chemical Impurities on the Properties of Semiconductor Thermoresistances 21

PERIODICAL: V sb.: Poluprovodnik, thermosoprotivleniya. Moscow-Leningrad, Gosenergoizdat, 1959, pp. 56-62

TEXT: The authors studied the effect of chemical impurities on the electrical properties of thermoresistances on titanium-magnesium specimens, where TiO_2 was the basic semiconductor component. The following admixtures were used: V_2O_5 , P_2O_5 , Fe_2O_3 , Al_2O_3 , CuO , MoO_3 , MnO_2 , SiO_2 . They were introduced in various concentrations. The mass was mixed with an organic binder, passed through the metallic draw plate of a vertical press and the specimens obtained were simultaneously annealed under the same temperature conditions in hydrogen furnaces. The experiments showed that the specific resistance and temperature sensitivity varied within a wide range depending on the type of admixture and the concentration. The

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On the Effect of Chemical Impurities on the Properties of Semiconductor Thermo-
resistances

addition of metal oxides with a valence of the metallic ion > 4 , causes a con-
siderable drop in the magnitude of the specific resistance; metal oxides with
a valence of < 4 raise the magnitude of specific resistance. X

G.G.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

SOTSKOV, B.S., prof., doktor tekhn.nauk, glavnyy red.; UDALOV, N.P.,
kand.tekhn.nauk, red.; ZAYTSEV, N.S., inzh., red.; SKOGOREV,
Ye.N., inzh., red.; TURKULETS, V.I., inzh., red.; PETROV, V.A.,
red.; MATVEYEV, G.I., tekhn.red.

[Semiconductor thermistors; collected articles] Poluprovodnikovye
termosoprotivleniia; sbornik statei. Moskva, Gos.energ.izd-vo,
1959. 229 p. (MIRA 12:8)

(Thermistors)

Plates for cuprous oxide converters. S. P. Gvozdev and V. I. Tyukhaila, Russ. 45,684, Jan. 31, 1930. (On the plates to be treated are placed perforated plates of a material with a higher resistance to oxidation. The plates are pressed together and heated. The Cu_2O elements are obtained by stamping.)

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AS 35.1 A METALLURGICAL LITERATURE CLASSIFICATION

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| PROCESSING AND PROPERTIES INDEX | | | | | | | | | | | | | | | | | | | |
| <p>BC</p> <p>15-1-7</p> <p>CUPROUS OXIDE, RECTIFIER IN ELECTROCHEMICAL FRACTION. Turkulots (Zavod. Lab., 1936, 5, 349). (R.T.)</p> | | | | | | | | | | | | | | | | | | | |
| <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | | | | | | | | | | | | | | | |
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TURKULEVICH, A.D., inzh.-konstruktor (Kiyev)

Physical exercise for all. Zdorov'e 5 no.5:21 My '59.

(EXERCISE)

(MIRA 12:11)

| 1ST AND 2ND GROUPS | | | | | | | | | | 3RD AND 4TH GROUPS | | | | | | | | | | 5TH AND 6TH GROUPS | | | | | | | | | |
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| PERIODIC TABLE OF ELEMENTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>BC</p> <p>M-Z rectifier in electrochemical practice. TURKULITS (J. Appl. Chem. Russ., 1936, 9, 965-966).— The advantages of Cu oxide rectifiers are pointed out. R. T.</p> <p>B-I 7</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1ST AND 2ND GROUPS 3RD AND 4TH GROUPS 5TH AND 6TH GROUPS</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TURKUMAN, D.M.; TYSHKUL, F.P.

Work education on a school collective farm. Politekh.obuch.
no.6:33-37 Je '59. (MIRA 12:12)

1. Direktor sredney shkoly, selo Kerzhautsy, Lipkanskogo rayona
Moldavskoy SSR (for Turkuman). 2. Predsedatel' kolkhoza, selo
Kerzhautsy, Lipkanskogo rayona, Moldavskoy SSR (for Tyshkul).
(Kerzhautsy--Student activities)
(Agriculture--Study and teaching)

TURKUS, V., dotsent.

Useful manual ("Repair and operation of plumbing equipment
in houses and public buildings" by L.D. Boguslavskii.
Reviewed by V. Turkus). Zhil.-kom.khoz. 6 no.8:28 '56.

(MLRA 10:2)

(Plumbing)

ANDREYEV, P.I.; TURKUS, V.A., kandidat tekhnicheskikh nauk, redaktor;
SOKOLOVA, R.Ya., tekhnicheskiiy redaktor

[Dissemination of waste industrial gases in the air] Rasseianie
v vozdukh gazov, vybrasyvaemykh promyshlennymi predpriatiiami.
Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1952. 84 p.
[Microfilm] (MLRA 7:10)

(Gases) (Air--Pollution)

BATURIN, V.V.; EL'TERMAN, V.M.; TURKUS, V.A., redaktor.

[Ventilation of industrial buildings] Aeratsiia promyshlennykh zdaniy.
[Nauch. redaktor V.A.Turkus] Moskva, Gos. izd-vo lit-ry po stroitel'stvu
i arkhitekture, 1953. 259 p. (MLRA 6:10)
(Factories--Heating and ventilation)

TURKUS, A.V.

KISSIN, M.I., kandidat tekhnicheskikh nauk, dotsent; D'YAKONOV, P.I.,
kandidat tekhnicheskikh nauk, dotsent, retsenzent; UL'YANINSKIY,
S.V., professor, retsenzent; TURKUS, A.V., dotsent, redaktor;
DAKHNOV, V.S., tekhnicheskiiy redaktor.

[Heating and ventilation] Otoplenie i ventiliatsiia. Pt. 1.
[Heating] Otoplenie. Moskva, Gos. izd-vo stroit. lit-ry, 1947. 353 p.
(Heating) (MIRA 8:2)

TURKUS, V. A.

POLYAKOV, D.L., inzhener, redaktor; BATURIN, V.V., kandidat tekhnicheskikh nauk, redaktor; BORISOV, V.P., inzhener, redaktor; GOVOROV, V.P., inzhener, redaktor; MATS, Ya.M., inzhener, redaktor; RYVKIN, Kh.I., kandidat tekhnicheskikh nauk, redaktor; TURKUS, V.A., dotsent, redaktor; KORSAKOV, S.S., retsenzent; UFIMTSEV, G.N., retsenzent.

[Manual for planning heating and ventilation systems of industrial enterprises] Spravochnik po proektirovaniu otopleniia i ventiliatsii promyshlennykh predpriatii. [Redkollegiia D.L. Poliskov i dr. Redaktor V.A. Turkus] Moskva, Gos. izd-vo lit-ry po stroitel'stvu i arkhitekture, 1953- (MIRA 7:6)

1. Leningrad. Proyektnyy institut ministerstva stroitel'stva. (Heating--Handbooks, manuals, etc.) (Ventilation--Handbooks, manuals, etc.)

TURKUS, V.A., dotsent; BROMLEY, M.F., kandidat tekhnicheskikh nauk, nauchnyy redaktor; NEPOMNYASHCHAYA, T.F., redaktor; PERSON, M.F., tekhnicheskiiy redaktor.

[Heat supply and ventilation] Teplosnabzhenie i ventiliatsiia.
Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1954. 242 p.
[Microfilm] (MLRA 7:11)
(Heating) (Air conditioning) (Ventilation)

TURKUS V.A.
PANCHENKO, A.V.; USHAKOV, K.A., doktor tekhnicheskikh nauk, professor, zaslushennyy deyatel' nauki i tekhniki; retsenzent; TURKUS, V.A., dotsent, retsenzent; KHANZHONKOV, V.I., kandidat tekhnicheskikh nauk; retsenzent; VEREVKIN, N.I., kandidat tekhnicheskikh nauk, retsenzent; DIMANT, P.I., inzhener, retsenzent; GEL'MAN, D.Ya., redaktor; LABUS, G.A., tekhnicheskii redaktor.

[Ventilator systems for elevators, mills, groats and mixed feed plants] Ventilatsionnye ustanovki elevatorov mel'nits, krupianyykh i kombikormovykh zavodov. Izd. 2-e pererab. i dop. Moskva, Izd-vo tekhnicheskoi i ekonomicheskoi lit-ry po voprosam zagotovok, 1954. (MLBA 7:11)
371 p.

1. Dotsent Odesskogo tekhnologicheskogo instituta imeni Stalina (for Panchenko)
(Ventilation)

TURKUS, V.A.

"Technical methods for investigating and testing the effect of ventilation installations in industrial enterprises." M.F. Bromlei, V.V.Kucheruk. Reviewed by V.A.Turkus. Gig. 1 san. no. 10:59-60 O '54. (MLRA 7:11)

(FACTORIES--HEATING AND VENTILATION)

(BROMLEI, M.F.)

(KUCHERUK, V.V.)

BOGUSLAVSKIY, Leontiy Davidovich; TURKUS, V.A., red.; UCHITEL', I.Z.,
red.izd-vp; SHLIKHT, A.A., tekhn.red.

[Operation and maintenance of heating and ventilating systems]
Tekhnicheskaya ekspluatatsiya otopitel'nykh i ventiliatsionnykh
sistem. Izd.3., perer. i dop. Moskva, Izd-vo M-va kommun.khoz.
RSFSR, 1959. 273 p. (MIRA 12:10)
(Heating) (Ventilation)

BATURIN, Vladimir Vasil'yevich, prof., doktor tekhn.nauk; REP'YEV, B.V.,
inzh., retsenzent; TURKUS, V.A., dotsent, retsenzent [deceased];
BROMLEY, M.F., kand.tekhn.nauk, nauchnyy red.; SMIRNOVA, A.P.,
red.izd-va; MEDVEDEV, L.Ya., tekhn.red.; STEPANOVA, E.S., tekhn.red.

[Heating, ventilation, and gas supply] Otoplenie, ventilatsiya i
gazosnabzhenie. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i
stroit.materialam. Pt.2. [Ventilation] Ventilatsiya. 1959.
287 p. (MIRA 12:10)

(Ventilation)

TURKUS, V.A.

ORLOV, Aleksandr Ivanovich, dotsent, kand.tekhn.nauk; DROZDOV, V.F., dotsent, retsenzent; ~~TURKUS, V.A.~~, dotsent, nauchnyy red.; NINEMYAGI, D.K., red.izdatel'stva; GOSEVA, S.S., tekhn.red.; STEPANOVA, E.S., tekhn.red.

[Heating and ventilation] Teplosnabzhenie i ventiliatsia.
Izd.2-oe, perer. Moskva, Gos.izd-vo lit-ry po stroit.i arkhit.,
1957. 299 p. (MIRA 10:12)
(Heating) (Ventilation)

TURKUS, V. A.

TURKUS, V.A.

"Removing dust from ventilation and industrial exhaust into the
air" by V.V.Kucheruk. Reviewed by V.A.Turkus. Gig.truda 1 prof.
zab. 1 no.3:58-59 My-Je '57. (MIRA 11:1)
(DUST--REMOVAL) (KUCHERUK, V.V.)

TURKUS, V.A.

Heating a city dwelling. Politekh. obuch. no.9:54-69 S '57.
(Heating) (MLRA 10:9)

TURKYEVIKH, N. M.

28258

Rastvorivaya soyedinyeniya vismuta N. M. Turkovich. (Sobshch.). 1. Estet
visruta, yego akty soyedinyeniya i arkhitekt - (sobshch.). 2. Kharakteristika
soyedinyeniya tsitrata visruta s arkhitekt. - (Sobshch.). 3. Kharakteristika
soyedinyeniya visruta s tsitrata. Zh. Fiz. Khim. Zhurn. 1. IV. 1949, 2,
1949, S. 243-57 - Bibliogr: 16 nazv.

SC: LETOPIS NO. 34

TURKULETS, V Ye.

p.3 PHASE I BOOK EXPLOITATION 1207

Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti.
Moskovskoye pravleniye

Primeneniye poluprovodnikov v priborostroyenii; trudy konferentsii
(Use of Semiconductors in Instrument Making; Transactions of a
Conference) Moscow, Mashgiz, 1958. 258 p. 20,000 copies printed.

Ed. (Title page): Chistyakov, N.I., Doctor of Technical Sciences,
Professor; Ed. (Inside book): Monastyrskaya, A.M., Engineer;
Tech. Ed.: Uvarova, A.F.; Managing Ed. for Literature on
Machine Building and Instrument Construction (Mashgiz):
Pokrovskiy, N.V., Engineer.

PURPOSE: This book is intended for scientists, engineers and
technicians working in the field of instrument making and for
teachers and students of technical vuzes.

Card 1/5

Use of Semiconductors in Instrument Making (Cont.) 1207

COVERAGE: The articles in this collection describe semiconductor components of modern instruments, the physical basis of their applications, the principles of designing instruments equipped with semiconductors, and practical experience derived from the application of these instruments in various fields. No personalities are mentioned. There are 111 references, of which 54 are Soviet, 29 English, 17 German, 8 French, 1 Polish, 1 Czech, and 1 Japanese. References appear at the end of each article.

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AVAILABLE: Library of Congress
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JP/ksv
2-17-59

VOROB'YEV, V.N., inzh.; TURLAKOV, A.S., inzh.

Studying the intercoil pulsation in single-pass marine boilers.
Sudostroenie 30 no.7:28-30 J1 '64. (MIRA 13:9)

PUSHKIN, N.I.; TURLAKOV, A.S.; EYTVID, L.V.

Heat emission and the hydraulic resistance of steam air preheaters
in marine boilers. Trudy LKI no.36:75-84 '62. (MIRA 16:12)

1. Kafedra sudovykh parovykh kotlov Leningradskogo korable-
stroitel'nogo instituta.

TURLAKOV, P.; DIMITROV, D.

"Let us prevent injuries to the young trees during the final phase of the general cutover in oak forests."

GORSKO STOPANSTVO, Sofia, Bulgaria, Vol. 15, no. 4, Apr. 1959.

Monthly list of East Europe Accessions (EEAI), LC, Vol. 8, No. 6, ^{Sept.} Jun 59
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